

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Allocation and Designation of Spectrum for)	IB Docket No. 97-95
Fixed-Satellite Services in the 37.5-38.5 GHz,)	
40.5-41.5 GHz and 48.2-50.2 GHz Frequency)	RM-8811
Bands; Allocation of Spectrum to Upgrade Fixed)	
and Mobile Allocations in the)	
40.5-42.5 GHz Frequency Band; Allocation of)	
Spectrum in the 46.9-47.0 GHz Frequency Band)	
for Wireless Services; and Allocation of Spectrum)	
in the 37.0-38.0 GHz and)	
40.0-40.5 GHz for Government Operations)	

To: The Commission

**REPLY COMMENTS OF
WINSTAR COMMUNICATIONS, INC.**

Pursuant to Section 1.415 of the rules of the Federal Communications Commission (“FCC” or “Commission”), Winstar Communications, Inc. (“Winstar”) hereby submits these reply comments in the above-captioned proceeding.¹

BACKGROUND AND SUMMARY

Winstar is a national facilities-based broadband services company offering local and long distance telecommunications, high-speed Internet, and data services. It provides these services through a variety of technologies, including its fixed wireless systems that operate pursuant to exclusive, area-wide licenses in the 38.6-40.0 GHz band (the “37.5-40.0 and 42.0-42.537.5-40.0 and 42.0-42.537.5-40.0 and 42.0-42.5 GHz band”) and 16

similar licenses in the Local Multipoint Distribution Service or “LMDS” (27.5-29.5 GHz and 31 GHz) bands. Winstar also holds spectrum in a number of other point-to-point Part 101 bands, including the 6 GHz, 10 GHz and 18 GHz bands.

Winstar submitted comments supporting the FCC proposal to modify the band plan for the 36.0-51.4 GHz band to reflect decisions reached at the 2000 World Radiocommunication Conference (“WRC-2000”) in Istanbul, Turkey, which provides satellite and terrestrial operators with greater certainty about their scope of operations in this band. In particular, Winstar supported the proposed specific power flux-density (“PFD”) limits on satellite operations in portions of this band consistent with the results of WRC-2000 as they will maximize efficient use of the radio frequency spectrum by both satellite and terrestrial users with minimal changes to the existing Table of Frequency Allocations

Winstar also strongly supported the Commission’s efforts to create a band plan for the 36.0-51.4 GHz band and otherwise modify its rules to achieve optimal usage of that spectrum by fixed wireless and satellite providers. Subject to certain minor adjustments proposed herein, the proposals set forth in the *FNPRM* will give fixed wireless and satellite providers greater operational certainty *without* reducing the amount of amount of spectrum currently available to them. As such, the *FNPRM* represents a sound and workable solution, that will minimize sharing burdens and facilitate more rapid deployment fixed wireless services, to the ultimate benefit of consumers.

Winstar again believes that the Commission’s actions in this proceeding must be guided by the principles set forth at footnote 65 of the *FNPRM*:

¹ *Further Notice of Proposed Rulemaking*, IB Docket No. 97-95, FCC 01-182 (rel. May 31, 2001) (“*FNPRM*”).

[I]n the United States and in some other parts of the world, the primary FS application below 40 GHz is ubiquitous terrestrial broadband services. These FS operators intend to compete with wireline and fiber-optic services. To compete successfully against these services, FS providers must assure their customers very high availability and quality. To ensure high availability and quality, FS operations require more protection from potential interference than some other services with lower availability and quality requirements. If FS providers cannot provide adequate availability and quality, FS will fail to compete effectively with wireline and fiber-optic services.

Winstar supports the Comments filed by Wireless Communications Association International (WCA) and DMC Stratex.

The FCC has evidenced remarkable focus in addressing the difficult issue of providing a reasonable format by which the V-band can be utilized by both FS and FSS services. This is especially true when all facts lead to the conclusion that the two services cannot share in any practical or useful manner if they each maintain the ability to widely deploy terminals in the same band. The technical and service rules that the Commission proposes to implement provide a rational way of utilizing the V-band spectrum by both FS and FSS without significantly impacting the systematic evolution of these services.

It is important to consider the growth potential and public interest served by removing needless uncertainty in the terrestrial designated portions of the V-band, particularly at 38.6-40.0 GHz. The financial markets are in turmoil and the overall economy is suffering. Meanwhile, the advent of telecommunications competition continues to spark consumer choice for essential communications services. Facilities-based fixed service (FS) systems are providing businesses with lower cost, quickly installed, and often more reliable, alternatives. Additionally, emergency restoration and

network survivability services provided by fixed wireless providers to government, businesses and other carriers, have emerged as key elements in the past weeks as the nation faces new and unexpected challenges. It is time to provide certainty in the V-band about the rights of licensees to build networks without the threat of constant, open-ended processes that could change the underlying structure of their licenses. To think that terrestrial licensees who paid the government for use of their spectrum less than one year ago must suffer and defend against endless attacks on the technical rules underlying those licenses is untenable.

FS customers in many cases require service that matches fiber optic reliability standards. Winstar has responded and provides WirelessFiber service. Accordingly, satellite systems must not be allowed to increase the power of their systems beyond the S.21-4 minus 12dB power flux density (PFD) limit more than 0.001% of the time, in order to preserve the 99.999% network availability required to meet fiber standards.

DISCUSSION

1. The V-Band is Used By the Fixed Service for Emergency Restoration and Network Survivability.

The aftermath of recent unfortunate events in Manhattan, Washington, and Pennsylvania, have demonstrated how physically-diverse, facilities-based networks that use separate methods of ingress and egress into buildings provide critical emergency restoration and network survivability capabilities.² Terrestrial broadband wireless facilities are a significant part of that solution as reported in the Wall Street Journal³,

² New York Times, *An Unimaginable Emergency Puts Communications to the Test* (Sept. 20, 2001).

³ Wall Street Journal, *Disaster Gives New Life to Wireless Telecom Firms: By Sending Data Through Air, Struggling Start-Ups Link Cut-Off Manhattan Clients*, at B1, October 3, 2001

Wireless Week,⁴ Network World,⁵ and RCR Wireless News.⁶ Fixed service operators are providing crucial communications to federal agencies, military, local governments, businesses, wireline carriers, cellular operators, and individuals.

2. Gateways Operating Outside The FSS Designated Bands Must Remain Limited

Hughes (p.11-12), Intelsat (p.9), TRW (p.26) and others argue that the FCC must abandon the policy of keeping any satellite use in the 37.5-40.0 GHz band limited to gateways serving individual customers- - (therefore clearing the way for numerous gateways and eventually ubiquitous satellite operations in the 37.5-40.0 GHz band designated for terrestrial use). Winstar supports the Boeing statement (p. 9) that the 38.6-40.0 GHz band is not appropriate for ubiquitous FSS.

The FCC in the NPRM correctly follows the results of WRC-2000 and designates the 37.0-40.0 GHz and 42.0-42.5 GHz bands for terrestrial services and the 40.0-42.0 GHz band for satellite. The FS industry has purchased licenses at auction to operate in the 38.6-40.0 GHz band. FS use in terrestrial-designated bands should never be obstructed by satellite deployments. The satellite proposals, if adopted, would increase the deployment of earth stations within area-wide licenses held by the FS, therefore triggering numerous coordination and interference concerns. In short, any loosening of the FCC language would create obstructions to existing FS deployments and would limit future terrestrial deployments in the area-wide licenses they purchased at auction.

⁴ Wireless Week, *Companies Assist Restoration Efforts*, Sept. 24, 2001. See also www.wirelessweek.com.

⁵ Network World, *Internet, Telecom Networks Put to Test in Wake of Terrorist Strikes on U.S.*, (Sept. 17, 2001)

⁶ RCR Wireless News, *Broadband Carriers Aid to Get Networks Working*, (Sept. 24, 2001).

Satellite entities which acquire area-wide licenses in the 39 GHz band are free to deploy terrestrial systems within the confines of Part 101 of the rules.

FSS operators have not demonstrated any need or established any record, to justify their request to permit any type of ubiquitous or quasi-ubiquitous operations in all of the 37.5-40.0 GHz band, or in the 37.5-38.6 GHz sub-band. Any such action to placate the industry, goes against the grain of the Commission's well thought out "soft-segmentation" proposal. The FSS operators should simply focus on implementing ubiquitous services in the 40.0-42.0 GHz band, and implement only large, very limited, gateway, operations in the 37.5-40.0 GHz band which do not restrict FS deployments or growth and which have the consent of the terrestrial licensee.

Winstar is very concerned about the stated intent of the FSS community, as to how it plans to use the 37.5-40.0 GHz band. As Winstar understands it, the FCC is going to limit the use of the 37.5-40.0 GHz band by FSS for a limited number of large, coordinated, gateway earth stations. However, several comments by TRW and others indicate that the FSS community views "gateway" in a loose sense. In documents submitted to ITU-R WP-4A (4A/TEMP/21), the GESN system of TRW is described as implementing earth stations at Fiber-Access-Points (FAPs) in the terrestrial network. These types of facilities can run into hundreds in each metropolitan area of the U.S. We are concerned that the FSS community will define the "gateway" as it chooses, and will set out to implement hundreds of "gateways" in each metropolitan area. The Commission must make sure such a thing will not happen, and set specific guidelines for implementing and coordinating "gateway" earth stations.

The need for 3G backhaul facilities will create considerable demand for spectrum for 39 GHz terrestrial wireless services, thus bringing FS deployments along rural highways and deeper into areas that may potentially be used for gateways.

It is advisable for the Commission to revisit this issue in 10 years. If the FSS operators have been unable to implement their services in any meaningful way in any or all parts of the spectrum designated for FSS use, the Commission may consider removing FSS from the allocation.

Therefore, the Commission should not deviate from its proposals in the FNPRM.

3. Coordination Between Earth Stations and Terrestrial Services

In accordance with the proposals in the outstanding Secondary Markets proceeding⁷, the FSS should negotiate commercial agreements with any impacted terrestrial license holders defining the terms under which satellite gateways may operate in the 37.5-40.0 GHz and 42.0-42.5 GHz bands.

4. The Fixed Service is Vibrant and Must Not Be Given the Short Shrift Advocated by Certain Satellite Industry Commentors

Intelsat (p.7), and Boeing (p.4) question the future viability of the fixed service and state that pro-satellite changes are thus warranted in the proposed rules. Boeing states:

Since the Commission's adoption of its *36-51 GHz Reconsideration Order*, there have been new factual developments that warrant a re-evaluation of the proposed division of spectrum resources between satellite and non-satellite uses. The recent bankruptcies of FS operators and the waning interest of High Altitude Platform Service ("HAPS") in the V-Band bring into question the designation of 5.6 GHz of spectrum in the V-band for non-satellite commercial uses.

⁷ Docket 00-230.

In contrast, satellite operators demonstrate a need for additional spectrum resources in the 36-51 GHz band and are increasingly hampered in deploying systems due to congestion in lower spectrum” (Page 4)

A number of wireless systems have been built and operate in this band (38.6-40 GHz), even though many of these system operators are in bankruptcy proceedings. (Page 9)

The auction-won 39 GHz licenses were delivered to FS providers less than 1 year ago, and they have a 10-year term. The FS industry paid for these licenses with the expectation that they would be able to use them. Furthermore, the satellite comments are factually deficient, as FS deployment is growing (as reflected by recent FCC grants of license renewals).⁸ The satellite proposals at best are misinformed and premature.

The satellite community has a long history of laying claim for increasingly more spectrum, but never using it. While the FS operators in the millimeter wave bands have implemented networks and invested billions of dollars, the FSS community has not launched any meaningful service even in the 20-30 GHz band. A well-known satellite expert has noted that V-band satellite operations, particularly for delivering ubiquitous service, may indeed be not practical or cost effective⁹.

Therefore, the FSS community has established no record justifying preferential treatment, in the V-band proceedings.

5. FSS Downlink PFD Limits in the 37.5-40.0 GHz Band Must Comport with the U.S. Position

Intelsat argue to delay establishing PFD limits:

⁸ *FCC Public Notice*, Wireless Telecommunications Bureau Grants 321 Renewals in the CF Radio Service, DA No. 01-1932 (August 15, 2001).

⁹ Dr. John Evans, Former Director, Comsat Laboratories, at the MTT Symposium, 1999, Boston, Massachusetts.

“...Power Flux density Limits” of the FCC Rules, are premature given that ITU-R studies are ongoing on PFD limits and the final agreement is expected at WRC-2003” (page 3)

“Technical studies, once completed, may well show that the provisional 12 dB restriction in Resolution 84 may not be necessary for the protection of certain wireless operations in this band [37.5-40 GHz]. Furthermore, the United States may decide at a future time that the services requiring additional protection may not be viable and resort to leaving the regulations with the limits given in S21-4 as default values. As a result, Intelsat recommends that the domestic regulations be consistent with the international rules and provide for the possibility that the more constraining limits may be changed by WRC-2003, Therefore, Intelsat proposes that the baseline or the default rule for PFD limits should remain the current S21-4 limits as approved by WRC-2000.” (page 7-8).

“ The proposed PFD limits were derived based in a methodology that has been argued internationally to be inappropriate for this band. WP 4-9S is presently completing studies to develop methodologies that more appropriately assess the impact on the FS by the FSS. Preliminary results based on these methodologies would suggest that the limits S21.4 might be themselves be adequate in protecting the sensitive FS cases presented.” (page 8)

Boeing states that (Page 18):

“Instead of adopting satellite downlink power control, the Commission should adopt WRC-200 PFD limits in the 37.5-40 GHz band without any modifications, as specified in table S21.4.”

TRW states that (Page 23):

“The international community, however, has not accepted as fact that high-density applications in the fixed service requires the level of protection that would be provided by S21.4 minus 12 dB – particularly given the fact that compliance with those already strict levels is ascertained through the use of a methodology that is of dubious applicability in this frequency range”

TRW goes on to quote (footnote 52, Page 23), two Canadian Contributions (4-9S-90 and 4-9S-25), and a French Contribution (4-9S-68). However, neither the French nor the Canadian contributions, have been able to disprove the methodology that is used to derive S21.4 minus 12 dB pfd levels. In fact, the Canadian document 4-9S-90, actually proves (see figures 8 & 9 of 4-9S-90) that the U.S. results are consistent when identical

deployment and protection assumptions are used. In fact, most of the confusion created by the FSS community is in assuming erroneous deployment assumptions and protection criteria for FSS systems and then trying to justify that relaxed pfd limits are adequate to protect FS systems.

France has been the only administration that is actively opposing the U.S. pfd parameters. For a temporary period, at the WP 4-9S, a Canadian methodology had surfaced causing some confusion. As of now, no new results have been presented that disprove the S21.4 minus 12 dB analysis.

The record does not support any of the satellite claims. There is a considerable record to support the S21.4 minus 12 dB pfd limit, as being barely adequate to protect FS deployments in the 38.6-40.0 GHz band from harmful interference from FSS satellites. This also assumes that the satellite transmissions to a limited number of FSS gateway beams. The Intelsat claim that there is an alternative methodology that will show the adequacy of S21.4 pfd limit to protect FS, has not been proved by any facts. On the contrary, the same methodology when it is used to simulate interference to FS terminals utilizing the actual deployment characteristics¹⁰, demonstrates the need for FSS pfd values to be no higher than S21.4 minus 12 dB levels. It is unfortunate that some FSS interests were able to distract the attention from actual requirements by floating a methodology and claiming that it will somehow show that S21.4 pfd values are adequate to protect HDFS in the 38 GHz band¹¹. The confusion was created by the use of inaccurate performance assumptions and FS deployment characteristics. None of those assumptions reflected actual FS deployments.

¹⁰ Also documented in ITU-R Recommendation F.1498

¹¹ ITU-R, WP 4-9S-25 (Rev.1), October 2000

On the contrary, the Commission knows the record, and has been actively involved in developing the compromise position of the pfd mask of S21.4 minus 12 dB. In fact, the Commission, during the WRC-2000 Preparatory process, had accepted S21.4 minus 15 dB. In the process of reaching consensus at the CITEL meeting in March 2000, and later at the WRC-2000 meeting in Istanbul in May 2000, the Commission was involved in developing the current compromise value of S21.4 minus 12 dB.

The factual record has not changed despite unsupported noises from the FSS community. We, therefore, strongly urge the Commission to adopt S21.4 minus 12 dB value as the pfd limit for FSS operations.

Boeing, TRW, and Intelsat want the FCC to adopt the S21.4 limits as the operating pfd limits with the requirement that the power levels should be dropped to S21.4 minus 12 dB levels during clear weather operations. Winstar has already submitted comments on this issue. It makes eminent practical sense to prescribe the pfd limits for normal (clear-weather) operations, and then provide for FSS power increase under rain fade conditions up to the S21.4 limits. There is no meaningful way to assure protection of FS deployments, unless the operating pfd limits provide that assurance. The S21.4 minus 12 dB value is the operating pfd value. Further, this policy is also consistent with the Commission's "soft segmentation" principle of giving a preferred use designation to FS in the 37.5-40.0 GHz band.

TRW states that (Page 22):

Although the CITEL approach was the official position of the U.S. prior to WRC-2000, since Istanbul the U.S. has firmly backed the WRC-2000 methodology in the ITU-R.

Then TRW quotes (footnote 49, Page 22) the U.S. preliminary position for WRC-2003, which states in part:

The PFD limits established in Article S21 (Table S21-4) for the FSS (space-to-Earth) in the bands 37.5-40.0 GHz, and 42.0-42.5 GHz,....should be maintained and should be used for validation purposes”.

TRW’s selected interpretation of the U.S. Preliminary position for WRC-2003 is misleading. The U.S. position on this issue has not changed. The U.S., Canada, and other CITEL administrations tried at WRC-2000 to get the S21.4 minus 13.5 dB pfd limits being adopted in S21.4. However, as a compromise gesture to the Europeans, the U.S. agreed to have the S21.4 values for ITU-R Bureau “Validation” purposes, but not for FSS “operations.” Regarding “operational pfd limits,” the U.S. and other administrations insisted on S21.4 minus 12 dB as the operational limits for clear-sky operations. The Resolution 84 question was raised as to how much power FSS satellites will be allowed to increase and for what percentage of time during rain fade conditions.

The Commission’s proposal in the FNPRM is totally consistent with the U.S. position before, at, and after the WRC-2000. It continues to be the same as a preliminary position for WRC-2003. The only question that is left open is how much and what percentage of time the FSS satellites can increase power during fading.

6. The Percentage of Time FSS Satellites are allowed to increase power up to S21.4 levels during rain fading must not exceed 0.001%.

TRW (p. 21-26, and p. 34-38) presented a very specific paper that advocates, among other things, (i) increasing satellite power levels, and (ii) removing specific limits on the

percentage of time that satellite providers may increase their power levels. Intelsat (p.7-9), Hughes (p.10), Satellite Industry Association (p.3) and others support one or both of these positions.

Boeing states that (Footnote 35, Page 18):

“ In light of Boeing’s recommendation not to adopt satellite downlink power control, Boeing does not address the time limits on PFD exceptions. If, however, the Commission decides to require satellite downlink power control technology to be implemented in a future satellite system in the 37.5-40 GHz band, it should not adopt any time limits on the duration that downlink power control is applied. An operator should be able to apply downlink power control in fade conditions for as long as necessary to overcome signal degradation and to provide users with the same link performance as in clear sky conditions.”

Intelsat states that (Page 9):

GSO/FSS operators should be limited to using no more power than is required to overcome atmospheric effects. Specific values are time and location dependent due to variation geography and climate. As a result, it may be difficult to quantify a specific value that represents all cases. Intelsat proposes that any domestic regulation at this preliminary stage be limited to a general statement that GSO/FSS operators shall limit the power increase to the minimum necessary to overcome atmospheric effects”

The satellite proposals, if granted, effectively reverse the gains of WRC-2000 and would result in the harmful radiation of the terrestrial designated bands at unacceptable levels for unacceptable amounts of time. The specific rule changes proposed by TRW in its Annex (p.34-38) must be rejected.

Instead the FCC-proposed rules should be edited to comport with the stated intent to protect terrestrial operations below 40 GHz. Thus, the rules make it clear that satellites may only exceed power levels for clearly defined, short-term events. In principle, the conditions under which FSS is allowed to increase power can be any or all of the following:

- FSS satellite transmissions to gateways are faded;
- FSS operators have coordinated with FS operators who operate systems within the satellite beam concerning the power increase up to 12 dB, and have secured their approval, or reached agreement with them that permits FSS power increase;
- FSS gateways are located in such a way that there are no meaningful FS deployments that are present or planned within the satellite gateway beam area;

The percentage of time that FSS is allowed to increase power should be 0.001% of time, unless higher percentage of time up to the required percentage is prior-coordinated with the impacted terrestrial licensee.

Winstar proposes the following text for Section 25.208:

Section 25.208. Power flux-density limits.

(n) In the bands 37.5-40.0 GHz and 42-42.5 GHz, the power flux-density at the Earth's surface produced by emissions from a non-geostationary space station for all conditions and for all methods of modulation shall not exceed the following values:

-132 dB(W/m²) in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

-132 + 0.75 (δ -5) dB(W/m²) in any 1 MHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane; and

-117 dB(W/m²) in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane;

These limits relate to the power flux-density that would be obtained under assumed free-space propagation conditions. These PFD limits may be exceeded on a short-term basis by up to 12 dB under fade conditions. These instances where PFD limits are exceeded may not occur more than 0.001% of the time each year.

(o) In the bands 37.5-40.0 GHz and 42-42.5 GHz, the power flux-density at the Earth's surface produced by emissions from a geostationary space station for all conditions and for all methods of modulation shall not exceed the following values:

-139 dB(W/m²) in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

-139 + 4/3 (δ -5) dB(W/m²) in any 1 MHz band for angles of arrival δ (in degrees) between 5 and 20 degrees above the horizontal plane;

-119 + 0.4 (δ -20) dB(W/m²) in any 1 MHz band for angles of arrival δ (in degrees) between 20 and 25 degrees above the horizontal plane;

-117 dB(W/m²) in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane;

These limits relate to the power flux-density that would be obtained under assumed free-space propagation conditions. These PFD limits may be exceeded on a short-term basis by up to 12 dB under fade conditions. These instances where PFD limits are exceeded may not occur more than 0.001% of the time each year.

7. The FCC Must Move Quickly to Adopt Final PFD Limits

Some Commentors suggest that the Commission should wait until after the WRC-2003 Conference to adopt final pfd values. For example, Intelsat states that(Page 8):

“Intelsat favors the decision regarding pfd limits. Intelsat believes that a decision at this time, prior to the completion of the work by the ITU-R, is beneficial to neither the FS nor the FSS concerns in this band. As FSS systems in the band are at the preliminary design stage and the technology and business plans are not yet mature, delaying the decision will have minimal impact”

Intelsat misses the context of the whole V-band proceedings, and the requirements and needs expressed by both the FS and FSS communities:

- All through the V-band proceedings, the FS and FSS parties have urged the Commission to act expeditiously to adopt technical rules, so that their system development and marketing plans are not impacted;
- There are significant number of FS deployments at 38.6-40.0 GHz in the United States, and billions of dollars have already been invested, in building networks and offering services to a large community of businesses and individuals
- The 38.6-40.0 GHz auction is recently concluded and it would be grossly irresponsible to impose continued uncertainty about the interference environment in the 37.5-40.0 GHz band;
- TRW supports the immediate adoption of the proposed pfd limits (TRW Comments, Page 21, Section IV.A).

The delay actions proposed by some Commentors, including Intelsat, are counter-productive. At the WRC-2000 Conference, it became obvious that the CITEL administrations (ITU Region 2) and some Region-3 administrations supported the S21.4 minus 12 dB. Europe (and Intelsat, which could not vote), opposed adoption of this limit. Europe has conventional FS deployments in the 37.5-39.5 GHz band, and therefore has no need for S21.4 minus 12 dB levels to protect the conventional FS deployments.¹² Europe has expressed its interest in implementing U.S. type high density FS deployments in the 40.5-42.0 GHz band. Europe has a vested interest in supporting high pfd values below 40.0 GHz. This situation is not going to change. The record on the requirement for

S21.4 minus 12 dB limit to protect HDFS systems in the 37.5-40.0 GHz, is not going to change. In fact, it is already a compromise number. The FS interests would have asked for a lower number, but were willing to accept the higher limit of S21.4 minus 12 dB to maintain the carefully crafted compromise. The satellite interests are not serving the common U.S. interest by wanting to reopen this subject, while offering NO factual arguments.

On the other hand, adoption of the S21.4 minus 12 dB pfd limit as the operating limit, will go a long way in solidifying the regional position on this issue, and getting the support of Region 3 administrations. This will demonstrate clear U.S. leadership and provide the U.S. with a focused approach as it prepares for WRC-03.

Boeing further states that (Page 18):

“ it would be inappropriate for the Commission to impose untried power control requirements before the results of these studies are considered at WRC-03”

Boeing has this issue backward. Perhaps, it is caused by Boeing's lack of significant participation in both the ITU-R and WRC-2000 proceedings on V-band issues. We are sure Boeing, as a manufacturer of satellite systems, fully knows that power control (or the ability to increase power during rain fade conditions) is an essential design feature of V-band FSS systems. In fact, power control is also an essential feature of even short links in HDFS deployments. Without such power control, design of any meaningful FSS systems will become too expensive and impractical. FSS systems will need to operate at lower power levels during clear weather, in order to conserve essential primary

¹² S21.4 pfd limits are adequate to protect conventional FS deployments, which are mostly below 7° in elevation angle and have long link lengths.

power, and only increase power in those beams that are affected by rain fade. The Resolution 84 (WRC-2000) study item arose in the context of whether such power control operations will cause any harmful interference to FS systems in the satellite beam coverage area. Resolution 84 also asked for data on the percentage of time that such power control (increase) can be allowed. Truly, Boeing cannot be serious. If it is not sure about how to implement power control in the V-band, perhaps Boeing should rethink its plans and abandon its V-band business.

WHEREFORE, THE PREMISES CONSIDERED, Winstar Communications, Inc. requests that the Commission proceed expeditiously and adopt the technical and allocation related proposals, as outlined in the FNPRM, and giving due consideration to the comments and proposals made by Winstar in our Comments, and to our Reply Comments, as above.

Respectfully submitted,

WINSTAR COMMUNICATIONS, INC.

/s/
Joseph M. Sandri, Jr.
Dr. Jay Ramasastry

October 3, 2001

